

HERBAL MEDICINE AND ANXIETY DISORDERS

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Mental disorders are on the rise throughout the world, Pakistan being no exception, there are more than 15 million people suffering from one or other forms of disorders in this country. Anxiety affects quite a sizeable population and has been pointed to be the most common health ailment. It is rather inherited biologic responses that inflict through all stage of life process. Anxiolytic symptoms are avoidance, fearfulness, restlessness, worry, terror and panic. Functional complaints can be delineated as faintness, dizziness, weakness, palpitation, sweaty hands, shortness of breath, diarrhea, indigestion, headache, a constant urge to urinate, trembling, numbness and difficulty in sitting still. The people who are anxious are more vulnerable to other sort of emotional disturbances as well as to various anxiety malaises.

The conventional medical sciences have come up with many pharmaceutical dosage forms for the treatment of anxiety. Some examples are the benzodiazepines antidepressants (monoamine oxidase inhibitors, selective serotonin up take inhibitors and tricyclics-ACAs) β blockers, azapirones and anticonvulsant. However, these agents may exert different therapeutic lesions such as sedation, cognitive changes and possibility of addiction. Prescribed drugs includes benzodiazepines (most commonly, Valium, Xanax, Klonopium, Ativan, Librium, Tranxene, Serax, and Centrax). For people of sleeping the benzodiazepines estoril, Dalmane, or Halcion may be prescribed. These drugs are considered central nervous system depressants and they have a calming effect. Another group of frequently prescribed drugs for panic attacks and when depression is also present, are the antidepressants. There are three categories. The most promising are now the SSRI class, or Selective Serotonin Reuptake Inhibitors, like Prozac, Paxil, and Zoloft. They work by stimulating the production of Serotonin, a neurotransmitter in the brain. Other antidepressants like Mao Inhibitors (Nordil, Parnate, and Marplan) and tricyclics (Tofrinil, or imipramine, Desyrlil, Surmontil, Elavil, Sinequan, Norpramin, and Pamelor) are also prescribed. However MAO has potentially dangerous side effects if restricted dietary rules are not followed and so are losing favor. Three antidepressants that do not fit into the above categories are Wellbutrin, Anafranil, and Effexor, which combine an SSRI with a tricyclic. Another drugs, different from the rest, but especially effective for panic attacks, is Pubsar. Other medications are prescribed, such as drugs that control blood pressure or heart rate, especially if cardiac factors such as high blood pressure, tachycardia or Mitral valve Prolapse are contributing anxiety condition. Finally β blockers such as Inderal or Tenormin are some times prescribed for those whose panic or anxiety symptoms include severe palpitations.

Table 1. ANXIETY AND INSOMNIA

Manifestation of Anxiety

Psychological	Physiologic
Apprehension	Tremor
Irritability	Restlessness
Nervousness	Headache
Feeling and Inadequacy	Perspiration
Indecision	Constipation
Worry	Diarrhea
Feeling of Impeding doom	Nausea
Fear	Muscle Tension
Rumination	Palpitation

As compared *Tibb Unani*, on anxiety benchmark deals the patient on holistic parameters in a dual fashion jointly together for curative and preventive strategies. The curative herbal medicaments deal to correct or otherwise physiologically, pharmacologically, or biomedically alter or wipe out or reverse the symptoms for normal human behavior. While in case of preventive scheme the different high protein seeds (like Almond, Pistachio, Kaju, Kaddu, Kahu etc) provide stimulus as brain tonic and strengthen the neuron activity. In addition different forms of oils obtained from herbal medicaments (Roghan Labub Saba, Roghan Kahu, White Gourd Seeds etc.) as massage helps in relaxing of muscle spasm and other physical state to overcome anxiety malaise. Furthermore *Murrabay* and *Muffarrehat* (exhilarates) also provide the basic ingredients that are helpful as adjunct therapy for nervous tension and other similar syndromes. Tibb Unani places importance on the nutritional food, and that therapy could be seen as replacement for eating behavior and habits together with medication and this stands true in case of psychiatric illness where nutritional pattern also plays an important function to overcome abnormal behavior and temperament.

The nutritional therapy can be effective alternative or adjunct to herbal drug therapy. Some researchers implicate blood chemistry as contributing to anxiety and recommend-reducing intake of refined sugar. The stimulant diet like caffeine should also be avoided. Furthermore cold and allergy preparations have stimulant and adrenaline-stimulating properties be reduced and eliminated. Nicotine should be discarded, although quit smoking is extremely anxiety provoking. We know poor diets result from depression? Each of the diet recommended below are consistent with good health.

The vitamin B6 (pyridoxine hydrochloride) and B-complex deficiencies is also suspected in depression syndrome, and that carbohydrates (fruits, beans, and grains) may be especially helpful with the depression. Most of the side effects of the antidepressant medications are not diet related. However two possible side effects, constipation and dry mouth, can be alleviated by diet changes. It is advisable to eat more fibers and increase water intake.

Diet and nutritional factors are probably the most significant determine factors, other than physiological or genetic causes, for predisposing mental disorders. Virtually any nutrition deficiency can result in depression. The researches have been directed which have shown that vitamins C, thiamin (B1), pyridoxine (B6), cyanocobalamin (B12), niacin (B3) and folic acid could be linked to depression and emotional disorders. The trace metal imbalances (copper, zinc, lithium, and cobalt) were also linked to mental illness. Those suffering from schizophrenia had low levels of histamine, a chemical present in the cells throughout the body that is in high concentration at the base of the brain cell. It is suggested that, most important dietary rules to follow for optimal psychological and physiological health be:

Variety:	Eat a little of lot of different foods
Moderation:	Do not overeat or binge
Whole Food:	Eat natural food (whole grains, fresh vegetables and fruits) rather than processed food.
Purity:	Eat food free of pesticides and additive free, preferable organic.
Balance:	Eat a diet that is specifically suited to your own individual needs and body.

Anxiety and stress increase the production of adrenal corticosteroids, which interferes with the healing, compromise the immune system and encourage cardiovascular and digestive tract diseases. Fear and anxiety inhibit the cell repair mechanisms. Joy and relaxation increase circulations to painful and wounded areas and improve tissue repair.

Controlled research studies of these herbal medicine are limited. Except where specifically documented otherwise, all claims in reference to the products noted here are anecdotal in nature and meant to be interpreted using good medical judgment. It was difficult to make specific recommendations for their clinical use based on *DSM-IV* nosology for anxiety disorders. Descriptions of indications, even in such new references as the *PDR for Herbal Medicines* (Fleming, 1998), tend to be verified and revised., and use such terms as "nervous anxiety, mental strain and nervous agitation.

Table 2. CURATIVE UNANI ANXIOLYTICS

Trade Name	Herbal Constituents	Properties
Sherbet Ahmed Shah	Cuscuta reflexa (Aftimun) Lavandula stoechas (Ustukhuddus) Nepeta hindostana (Badrang Boya) Cassia senna (senna) Polypodium vulgare (Bisfaij) Nymphaea alba (Nilofar) Rosa damascena (Gulab) Ocimum basilicum (Franjmushk) Terminalia belerica (Halilah Siyah) Viola odorata (Banafshah) Onosma echoides (Gaozaban)	Melancholia and brain tonic
Somina (Cephalic Tonic)	Prunus amygdalus (Badam) Lagenaria vulgaris (Kaddu) Papver somniferum (Khaskhash) Sesamum indicum (Til) Lactuca serriola (Kahu)	Nervous tension, fear and anxiety states, weakness of brain and memory, sleeplessness, sedative, hypnotic
Aftimun	Cuscuta reflexa (Amberbel)	Melancholia, -----
Sumbalin		
Barshaasha	Valeriana walichii (Balchar) Hyoscymus niger (Ajwain khurasani) Papver somniferum (Khaskhash) Violoa odorata (Banafshah) Onosma echoides (Gaozaban) Anacyclus pyrethrum (Aqarqrah) Piper nigrum (Filfil Siyah) Euphorbia caudicifolia)	----- ----- -----

Table 3. FIXED/ESSENTIAL OILS (ROGHNIYAT) ANXIOLYTICS

Roghan Labub Saba	Sesamum indicum (Til) Papaver somniferum (Khashkhash) Lactuca serriola (Kahu) Prunus amygdalus (Badam) Pistacia vera (Pistah) Citrus vulgaris (Turbuz)	
Roghan Kahu	Lactuca serriola (Kahu)	_____
Roghan Khashkhash	Papaver somniferum (Khashkhash)	_____
Roghan Kaddu	Lagenaria vulgaris (Kaddu)	_____
Roghan Badam	Prunus amygdalus	_____
Roghan Banafshah	Viola odorata (Zafran) Sesamum indicum (Til)	_____
Roghan Kashneez	Coriandrum sativum (Dhaniya) Sesamum indicum (Til)	_____

Table 4. EXILARANTS (MUFFAREHAT) ANXIOLYTICS

Muffareh Shaikh-al-Rais	Aquillaria agallocha (agar) Onosma echioides (gaozaban) Elettaria cardamomum (Ilaichi Khurd) Santalum album(Sandal Safaid) Pterocarpus santalinus Sandal Surkh) Bambusa arundinacea (Banslochan) Centurea behen Behman Safaid) Lactuca serriola (Kahu) Rosa damascena(Gulab) Doronicum hookeri (Daronj Aqrabi) Portulaca oleracea (Khurfa Siyah) Lagenaria vulgaris (Kaddu) Curcuma zeddoria (Zaranbad) Scilla serrata (Crab) Cucumis melo (Khurbuza) Cucumis sativus (Khiyarain) Cinnnamomum camphora (Kafur) Corallium rubrum (Marjan, Coral) Bombyx moris (Abresham Muqraz) Crocus sativus (Zafran) <i>Mixed with honey, apple, Pyrus cydonia(Behi) juices</i>	Brain Tonic
Muffareh Azam		
Muffareh Barid Sada		
Muffareh Buqrat		
Muffareh Kabeer		
Muffareh Moatadil		
Muffareh Yaquti Moatadil		

Table 5. MURRABAY () ANXIOLYTICS

Murraba Aamla	Emblica officinalis	Brain Tonic, Strengthen memory
Murraba Halilah (har)	Terminalia chebula	
Murraba Petha	Benincasa hispida	
Murraba Saib	Prunus malis	
Murraba Gazar	Daucus carota	
Murraba Anannas	Ananas cosmosus	
Murraba Bahi	Pyrus cydonia	

Table 6. **DIET AND DEPRESSION**

Carbohydrate	A chemical in the brain called serotonin has an important regulatory effect on a person's mood. Specifically, feelings of well being are heightened when serotonin is active in the brain. It is thought that some depressed people have a deficiency of serotonin. A high carbohydrate diet increased the brain's production of serotonin. Without knowing it, depressed people may be turning to carbohydrates in an attempt to improve their mood. While there is no evidence that eating carbohydrates will cure depression, eating a diet with adequate healthy carbohydrate foods can help.
B-Complex Vitamins	Deficiencies in the B complex of vitamins (especially folic acid, thiamin, riboflavin, niacin and B6) have been associated with depression. It is best to get these nutrients from your diet. If you decide to take a supplement, select a multiple vitamin with no more than 100-150% of the RDAs. Large amounts can pose health risks of their own.
Essential Fat	Too much fat in anyone's diet is considered a health risk for heart disease and some cancers. But not enough fat can be a problem for our mental health. One goal to help manage mood is to eat an adequate, not excessive, amount of fat. The second goal is to select the right kinds of fat. Polyunsaturated fats are essential for a healthy human diet. In western diets, one type of these essential fats (omega-3 fatty acids) is hard to get unless effort is made to do so.

Fiber

It is recommended that the diet include about 20 to 30 grams of fiber a day. Most of us probably get only 10 to 11 grams a day - only half as much as we need. Inadequate fiber intake contributes to constipation. Some medications can make the situation worse.

Insoluble Fiber

Insoluble fiber doesn't absorb water; it simply adds bulk to your stool. It helps to sweep everything through. If you put wheat bran in water, the water will evaporate, but the bran will not have absorbed any water. The more frequently you eliminate, the less chance of carcinogens or other undesirable substances being absorbed into the body. This type of fiber helps to correct or prevent constipation. It also reduces one's risk of diverticulosis and colon cancer.

Soluble Fiber

Soluble fiber is beneficial for lowering blood sugar and cholesterol levels. It works by absorbing water and forming a gel. Think of what happens when you put oatmeal or rice in a pan of water. Even without heat, they absorb all the water and become gel-like. This is what happens in your body. The gel traps cholesterol and sugar, preventing it from being absorbed from the intestine.

Table 7. FIBER CONTENTS OF SELECTED FOODS

Food	Serving Size	Total Fiber (gms)	Soluble Fiber (gms)	Insoluble Fiber (gms)
<i>Fruits</i>				
Apple, with skin	1 medium	4.2	1.6	2.6
Banana	1 medium	2.3	0.7	1.6
Orange	1 medium	2.5	1.6	0.9
Pear, Bartlett	1 medium	4.0	0.8	3.2
Prunes, dried	4	3.1	1.3	1.8
Strawberries	1 cup	1.6	0.6	1.0
<i>Vegetables</i>				
Beans, green, cooked	1/2 cup	2.0	0.8	1.2
Broccoli, raw	1/2 cup	1.5	0.1	1.4
Brussel Sprouts, Cooked	1/2 cup	3.6	1.7	1.9
Carrot, raw	1 medium	2.6	1.1	1.5
Corn, cooked	1/2 cup	4.7	0.2	4.4
Peas, cooked	1/2 cup	4.4	1.2	3.2
Potato, with skin	1 medium	2.4	0.6	1.8
Sweet potato, peeled	1 medium	3.4	1.7	1.7
Tomato	1 medium	1.3	0.3	1.0
<i>Dried Beans and Peas (cooked)</i>				
Blackeyed peas	1/2 cup	4.1	0.5	3.6
Garbonza beans	1/2 cup	4.0	1.2	2.8
Kidney beans	1/2 cup	8.2	3.6	4.6
Lentils	1/2 cup	4.5	0.7	3.8
Pinto beans	1/2 cup	10.3	3.9	6.4
Split peas	1/2 cup	3.4	1.1	2.4
<i>Breads/Rice/Pasta</i>				
Rye bread	1 slice	1.6	0.7	0.9
Sourdough bread	1 slice	2.8	0.9	1.9
Whole wheat bread	1 slice	2.2	0.5	1.7
Brown rice	1/2 cup	1.8	0.2	1.6
Spiral pasta, whole wheat. cooked	1 cup	3.7	0.7	3.0
<i>Nuts and Seeds</i>				
Almonds	1/4 cup	3.9	0.4	3.5
Peanuts,dry roasted	1/4 cup	2.5	0.7	1.8
Sesame seeds	1/4 cup	3.3	0.7	2.6
Sunflower seeds	1/4 cup	2.2	0.7	1.5
<i>Breakfast Cereal</i>				
All-Bran with Extra Fiber	1/2 cup	15.0	1.0	14.0
Bran Buds	1/3 cup	10.7	2.8	7.9
Fiber One	1/2 cup	13.0	1.0	12.0
Oatmeal, cooked	1 cup	4.0	2.4	1.6
Shredded Wheat, small biscuits	1 cup	4.2	0.7	3.5

Total Raisin Bran	1 cup	6.0	0.9	5.1
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The nervous system and herbal remedies

In no other system of the body is the connection between physical and psychological aspects of our being as apparent as in the nervous system. The tissues of the nervous system is part of the physical makeup of type body but just as clearly, all the psychological process are anchored in the nervous system. Therefore, if there is “disease” on the psychological level, it will be reflected on the phsysiological level, and *vice versa*. A holistic approach to healing knowledge in the interconnectedness of physiological and psychological factors, and regards the nervous system and its function as vital system in the treatment of whole being. In the alternative or complimentary therapy and system of treatment, herbs that acts on central nervous system are called nervines. A listing of the categories of nervines and biomedical and herbal supplements are as follows:

- A. Nervine
 - 1. Nervine Tonic: Oats, St John Wort, and Scullcap.
 - 2. Nervine Relaxing: Balm, Black Chosh, Chamomile, Hops, Lavender, PassionFlower, and Valerian.
 - 3. Nervine Stimulating: Kola, Coffee, Gotu-Kola, Guarana.
- B. Biomedical
 - 4. Hypnotic: Poppy, Chamomile, Hops, and PassionFlower. Valerian.
 - 5. Antispasmodic: Cramp bark, Black Haw, Valerian.
 - 6. Antidepressant: St John Wort, Mugwort, Damania, Vervain, Lavender, Oats, Balm.
 - 7. Adaptogens: Ginseng, Eleuthrococcus.
 - 8. Analgesic: Jamaican Dogwood, Valerian, Wood Betony, and Yellow Jasmine.

In general, a number of phytomedicines are used for the treatment of anxiety, tension and stress such as Kava-Kava (Piper methysticum), PassionFlower (Passiflora incarnata), Valerian (Valeriana officinalis), and antidepressant St John Wort (Hypericum perforatum).

Kava-Kava

Kava-Kava (Piper methysticum) can reduce anxiety and tension, and it can promote restful sleep. Its ability to promote relaxation without loss of mental sharpness makes it particularly useful for the day time management of anxiety. Kava-Kava can reduce skeletal muscle tension (Bone, 1993/1994). In some people with epilepsy, it seems to prevent seizure as effectively as some prescription anticonvulsants (Kreuschmar and Mayer, 1969). Using electroencephalogram studies of anxious subjects, researches have indicated that Kava-Kava is as effective as benzodiazepines (Keville and Korn, 1996). In addition, it produces anxiolytic changes similar to those seen with diazepam (Valium) (Gessner et al., 1994).

In placebo controlled, double blind study (Lehman et al, 1996), one group of 29 patients received three daily doses of 100 mg Kava extract, while second group receive a placebo. The research showed that Kava-Kava significantly reduced the anxiety syndromes not caused by mental disorders. Similarly, 25 week multicenter, randomized, placebo controlled double blind study involving 102 people supported Kava-Kava use as the treatment alternatives in anxiety disorders. This study also showed that Kava-Kava long term efficacy without tolerance problem commonly associated with benzodiazepines (Volz and Kieser, 1998).

Kava-Kava works as mild skeletal muscle relaxant by acting on the central spinal nerves. It exerts a relaxing effects on the central nervous system. The active compounds demonstrate that γ -aminobutyric acid (GABA) receptor-binding activity. The adult dose of Kava-Kava extract (standardized to contain 30% Kava lactones) is 60 mg/day to 200 mg/day in either divided dose for general anxiety or single dose before sleep for insomnia (Bone, 1993/1994). The side effects of this botanical product include dermatitis, shortness of breath and visual disturbances.

PassionFlower

This herbal supplement is helpful in anxiety, and it can be used as sedative, hypnotic and antispasmodic. The active ingredient is chrysin, which appears to be a partial agonist of benzodiazepine receptor (Wolfman et al., 1994). Therefore it does not produce tolerance or is noted with the full agonist. The following dosages are reported anecdotally. It can be taken for anxiety as a tincture in a dose of one dropful in warm water, or as 1-2 capsules of freeze dried plant material (Weil, 1995/1990). At night time hypnotic, doses range from 200 mg-300 mg of the extract, taken one hour before bed time (Bloomfield, 1998). In Europe, it is combined with valerian for insomnia, anxiety and irritability.

One randomized controlled study using a commercial product containing both Passion Flower and valerian exhibited benefit in the treatment of adjustment disorders with anxiety (Bourin et al., 1997). Excessive use of this herb should be avoided during pregnancy and lactation (Newall et al., 1996).

Valerian

Valerian is a sedative obtained from *Valeriana officinalis*. It can act as a minor tranquilizer for restlessness, anxiety and sleep disturbances. Animal testing with Valerian shows results consistent with other hypnotic agents such as benzodiazepines (Hendricks et al., 1985). Human clinical studies confirm a mild sedative effect (Houghton, 1988). It is sold as tea, tincture or extract. For insomnia, the dosage is one teaspoonful (2-3 gm) or 300-500mg capsule at bedtime (Weil, 1995). Valerian has been used for a long time as a mild sedative and tranquilizer.

St. John's Wort

Pharmacopoeial grade St. John's Wort

Consists of dried flowering tops or aerial parts of *Hypericum perforatum*. In December, 1984, the German Herbal Commission E approved the internal use of St. John's Wort for psychovegetative (psychoautonomic) disturbances, depressive moods, anxiety and nervous unrest. ESCOP indicates its use for mild to moderate depressive state, restlessness, anxiety, and irritability (ESCOP, 1997). The German Standard License for St. John's Wort tea lists it for nervous excitement and sleep disturbances (Wichtl and Bisset, 1994). Contraindication: none known. Dosage and administration; 2-4 gm per day of chopped or powdered herb for internal use, or 0.2 –1 mg of total hypericin of pharmaceutical preparations. The British Herbal Pharmacopoeia reported antidepressant action (BHP, 1996). In numerous controlled double blind studies using hydroalcoholic St. John's Wort preparations, a significant improvement of mood and loss of interest and activity and other depressive symptoms, such as sleep, concentration and somatic complaints, has been reported (ESCOP, 1997).

Phytopharmaceutical Anxiolytics

The behavioral effects of acute administration of apigenin and chrysin contained in *Matricaria chamomilla* and *Passiflora incarnata* on an animal model exhibited anxiolytic effects and reduced locomotor behavior (Zanolini et al., 2000).

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